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ADDRESS

OF THE

PRESIDENT,

SAMUEL SOLLY, F.R.S.,

TO THE

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

AT THE

ANNUAL GENERAL MEETING,

MARCH 2ND, 1868.

ROYAL COLLEGE OF SURGEONS

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GENTLEMEN,—Sixty-three years ago this Society was founded by a few choice spirits, amongst whom I may name Dr. Saunders, John Abernethy, Drs. Babington and Baillie, Astley Cooper, Drs. Marcet and Yelloly, and several others of high repute. The first volume of their 'Transactions' was not published until four years afterwards, *i. e.* 1809. In the preface to this volume I find these remarks:—"The want of a Society, founded on liberal and independent principles, and conducted with the propriety and dignity which are worthy of the medical profession, had been acknowledged, and a few physicians and surgeons in the year 1805 held a meeting for the purpose of considering the best means by which it might be obviated." They invited the communications of papers, and soon felt one of those difficulties which have existed ever since. "The papers (says the preface) which come before the Society have necessarily various degrees of value, and, considering their merits with a view to publication, it is wished equally to avoid the extremes of fastidiousness and want of discrimination." Let us now consider briefly whether the Society has done all that it might do to promote the science of medicine and surgery, and whether it takes the high rank which it ought to do as the first Society in England for the development of a more perfect system of medical pathology and medical therapeutics. It has been said lately "That that high quality of scientific work on which the progressive development of practical medicine and surgery depends is not pursued in our schools nearly to the extent we should desire; that, indeed, as compared with what is done even in the minor schools of Germany, our annual harvest of scientific result is often so small as to be almost humiliating."

These expressions are, I believe, intended to apply to the shortcomings of the schools of the metropolis, in the usual sense of the word, and the examining bodies, in so far as they gauge the amount of instruction thereby distributed. If, however, these remarks be really true, might we not ask ourselves whether they can apply to the defects of this Society, as a part of the great machinery of England engaged in the production of scientific results for the advancement of medicine.

It is not a part of my duty to-night to repel or refute the attacks made upon the College of Surgeons by the talented writer I have just quoted, nor do I mean to imply that I consider all that he said in abuse of that noble institution was entirely without foundation; but I do assert most fearlessly that, with all its faults and shortcomings, the medical profession in England, as a body of men examined and sent forth to practise by the College of Surgeons, is far more practical, far more judicious in its application of medicine, surgical appliances, and surgical operations, than any body of practitioners pursuing the same calling throughout the length and breadth of the whole continent. I say not this from a fool's paradise, imagining that the College of Surgeons, or any of our medical institutions, have attained, or ever will attain, perfection; but we are, and ought to be always, aiming at it.

The great body of general practitioners—men who have to work day and night, as the great mass of surgical practitioners must do, to enable them to support their families, and administer to the wants of the poor—have not time during their short studentship to study pure science. If they were required to show a knowledge of it when under examination for their diplomas, they would do so to the prejudice of their more practical studies. The surgeons of hospitals would lose sight of them in the wards, and the demonstrators would miss them in the dissecting-room. The application of scientific research to the advancement of surgical practice is a noble vocation, and one which will always have its votaries in this country. The College of Surgeons instituted the Fellowship with the view of gradually exalting the scientific attainments of those surgeons whose incomes from private sources would enable them to continue their studies for a much longer period, and whose aim was both to study and teach surgery. This institution is beginning to reap its fruit, and each year will add to the harvest. It is to these men that this Society looks, and looks successfully, for aid in its objects. The Fellows by examination almost invariably join us, and will, I am sure, continue to do so. The same applies to the graduates of the London University, whose scientific examinations are admirably adapted to those who can afford to wait, study, and teach.

The Medical and Chirurgical Society—would that I might call it the Royal Society of Medicine and Surgery—is, like its great progenitor, the Royal Society of Science, an educational institution; or it is a myth, a vanity, and a delusion. It is, and I hope it always will be, an evening school for adults; for what medical man can lay the flattering unction to his soul that his education is completed? For my own part, I can say most honestly that I have seldom attended these meetings without either learning something new, or having a train of thought excited which by encouragement has led to some fresh investigation or useful research. This Society has done much to accomplish the object for which it was founded; but may it not, in accordance with the requirements of the present age, do each year a little more to foster industry and research among all the members of the profession? No man can enter this room and look round at the busts of the departed which adorn its walls, without acknowledging that this Society has been supported by the giants of old. Among the physicians, have we not the genial kindly countenance of Richard Bright, and the severe face of that active worker in the industrious school of Guy's Hospital, Thomas Addison?—while the noble heads of Cline, Abernethy, Cooper, Travers, and Brodie, attest the support given by the accomplished surgeons of the nineteenth century. These men have been duly honoured and thoroughly appreciated.

The deficiencies of this Association do not arise from any want of respect to the older members of the profession; but has there not been some want of consideration for the younger Fellows—the working bees of the hive? I am afraid that many an ardent devotee of science has been discouraged by the rejection of perhaps his first paper from the 'Transactions of the Medical and Chirurgical Society.' I do not mean, for one moment, to imply that such rejection has been the work of malice, prejudice, or favoritism; but mistakes have been too often committed. I fear that a false economy has sometimes been the moving agent; but, whatever the cause, those who have been disappointed—and I can *sympathise* with them—must endeavour to bear in mind that our 'Transactions' would soon lose their scientific value if the pruning-knife were not occasionally used with a relentless hand. I think too little value has been put upon single cases, which, well related, are important facts. To me, the great value of the 'Transactions' depends more upon the facts which they contain than upon the theories. The facts, if truthfully recorded, must last; but the theories may not outlive the session which gave them birth. I am so much of this opinion as to hope that each succeeding year the 'Transactions' will be more and more—*loaded*, I was going to say, but I will rather say *supported*, by facts, so that no author for the future would ever think of writing on medicine or surgery without referring to our 'Transactions' as the great storehouse of medical and surgical facts. I hope that the time has passed when the Council will be contented with publishing one volume, even though it may attain the goodly proportions of the present one. I should like to see one volume issued on this our anniversary, and another at the commencement of the medical session in October. I would far sooner publish occasionally an imperfect paper than reject a good one.

I have been much interested by a paper kindly furnished me by our intelligent Assistant-Librarian, Mr. Wheatley, showing the ebb and flow of the number of Fellows joining and attending this Society, and I find a marvellous spring after we obtained our Charter. This was in 1834.

The year previously the aggregate number attending during the whole year only amounted to 344, the resident Fellows being 128.

The next year they were 520.

In 1836 they sprang up to 811, the resident Fellows being 141.

In 1839, during the Presidency of Sir Benjamin Brodie, and my old teacher, Dr. Robert Williams, they sprang up to 1078, (resident Fellows 182), and they continued to increase till 1851, when they reached 1742 during the presidency of Mr. Hodgson.

At the present time our resident members are 350, and our total number is 641. But we admitted at our last ballot 19 new Fellows, the largest number on record.

The large attendance during some years may be accounted for by the interest attached to certain subjects; for instance, when Liston's paper on "Wounded Arteries" was read there were 150 Fellows present; Dr. Lee "On the Use of the Speculum," 216; Dr. West "On the Cæsarean Section," 190; Syme "On Stricture," 168; Johnson "On Cholera," 170.

In giving these numbers it is as well to remember that they were made up to a very great extent by visitors, who alone have apparently been drawn off by the foundation of new societies.

When the Charter was obtained many of the Fellows desired that the name should be changed to that of the Royal Society of Medicine and Surgery. I hope that this change of name may at no very distant period be brought before you for your consideration, but this step must, of course, be in the first instance sanctioned and proposed by the Council.

I have reasons to believe that this change may be accomplished without the intervention of a new Charter. I think that the present meeting-room is not worthy of a Royal Society, and our external appearance is a matter of wonderment to the foreigners who do us the honour of visiting us. And they excuse it by saying "Well, we cannot be surprised at such a mean exterior in a country where their palaces are like poor-houses, and their poor-houses like palaces."

The clock reminds me that I must no longer delay the mournful duty of recording the names and memory of those who have fallen since our last anniversary. Death has been busy in our ranks.

13 Fellows have departed during the past official year.

I must put all their names upon record, as this notice is often referred to in future times. In this part of my work I have been much assisted by the able writers of the weekly periodicals.

The first upon my List is—

Elected, 1843. *John Ward Woodfall*, M.D., M.A.Cam., F.R.C.P

Lond., 1854, Physician to the West Kent General Hospital, Maidstone, Kent, died March 22nd, 1867, aged 57, at Maidstone. Born December 7th, 1810. Grandson of the publisher of the 'Letters of Junius.' He was formerly Assistant-Physician to the Westminster Hospital.

He was educated at Westminster School, a public school of the highest character. It is to such schools that the medical profession in London must continually look for assistance in the education of their children.

Dr. Woodfall removed to Maidstone in 1853. This removal was attended with the happiest result. He obtained a large country practice, and was esteemed by all ranks, for he was a high-minded English gentleman and an able physician.

The Lord Lieutenant of the county recognised his worth, and made him a Justice of the Peace.

Elected, 1827. *George Robert Skene*, M.R.C.S. and L.S.A., of Bedford, died May 15th, aged 65, at Harrogate. He was formerly Demonstrator of Anatomy at the School of Medicine, Little Dean Street, Soho. In 1829 he translated from the Italian, with additions, the work of Benôit Mojon, entitled 'Leggi Fisiologiche.' He was a very shy retiring man, and would not associate with the medical men of the town.

The next upon my list was, with all his faults and imperfections, a truly great man—*William Lawrence.* Within these walls, and as a Fellow of this Society, we are especially bound to do honour to his memory.

Elected 1809. *Sir William Lawrence*, Bart., F.R.S., Serjeant-Surgeon to H.M. the Queen, Consulting Surgeon to St. Bartholomew's Hospital, died at Whitehall place, July 5th, aged 82 or 83. F.R.C.S. 1843, Member of Council of the College of Surgeons, Corresponding Member of the French Imperial Institute, Professor of Anatomy and Surgery at the Royal College of Surgeons in 1815-19, President of the Royal Medical and Chirurgical Society in 1831-32, was on the Council in 1820, 1833-34, and 1842-43, and held the offices of Secretary 1813-17, Vice-President 1818-19, and Treasurer 1821-26. Contributed eighteen papers to the 'Transactions' of our Society (See Index). Other works:—Treatise on Hernia (Jacksonian Prize Essay, 1806), of which five editions were published up to 1838, entitled

'Treatise on Ruptures, containing an Anatomical Description of each Species.' 'Introduction to Comparative Anatomy and Physiology,' 1816. 'Lectures on Physiology, Zoology, and the Natural History of Man,' 1819. 'Treatise on the Venereal Diseases of the Eye,' 1830. 'Treatise on the Diseases of the Eye,' two editions, 1833 and 1841, and edited, with additions, by Dr. Isaac Hays, in America in 1847. He delivered the 'Hunterian Orations' in 1834 and 1846. He published a translation of Blumenbach's 'Comparative Anatomy' in 1807, and his last work in 1863, entitled 'Lectures on Surgery,' delivered at St. Batholomew's Hospital.

Much has been said regarding the mistakes Wm. Lawrence committed when young, but the real history has yet to be written; for though no unqualified admirer of this great man, I still think he has not been fairly dealt with. I refer to the charge of scepticism for which he was attacked by Abernethy, and which endangered the loss of his position at Bethlem and his reputation with the world.

Lawrence lived too soon, and, like Galileo, Roger Bacon and others, was abused through the ignorance of his detractors, and not because he originally said that which was worthy of such abuse. Nevertheless it must be deplored that in his 'Lectures on Man' he expressed himself in a light, flippant, and foolish manner, on subjects to which religious men justly attach the greatest importance. But these passages did not contain his innermost feelings on religious matters, and such writing, though certainly injudicious, is very different from a systematic and intentional onslaught on the evidences of Christianity on the existence of a Great First Cause. I must advert to the opinions of John Hunter and Abernethy on 'The Nature of Life,' because it was these which called forth Wm. Lawrence's opposition.

John Hunter's idea is that life is something superadded to matter, and Abernethy believed that the important teachings and discoveries of Hunter could not be explained, appreciated, or understood, unless the student embraced and believed this theory of life as enunciated by John Hunter. Lawrence, differing *in toto* with John Hunter and Abernethy, availed himself of the first opportunity he had of expressing his own views on this subject. On the 21st and 25th of March, 1816, Mr. Lawrence gave two lectures at the College of Surgeons, the first entitled 'An Introduction to Comparative Anatomy and Physiology,' the second 'On Life.'

Nearly all that Lawrence ever wrote which could expose him to the charge of scepticism is contained in these two lectures, and I shall select those papers which I conclude Abernethy refers to in his attack, as he has not quoted anything to prove it; and you, gentlemen, must form your own opinion.

These lectures were published by J. Callow, Medical Bookseller, Crown Court, Princes Street, Soho, in 1816; they were dedicated to Dr. Farre. He dates his work "College of Physicians, July, 1816," where at that time he lived. Within a few weeks his name might have been seen on the portal of the College in Warwick Lane, Newgate Market.

After reading the high eulogium to Abernethy which Lawrence paid in his first lecture, I cannot believe that he ever imagined that his opposition to Abernethy's views of life, or the language in which he clothed it, could give the offence which it did to one whom he respected so highly.

"To your feelings," says Lawrence, "I must trust for an excuse, if any be thought necessary, for taking the earliest opportunity of giving utterance to the sentiments of respect and gratitude I entertain for Abernethy. You and the public know, and have long known, his acute mind, his peculiar talent for observation, his zeal for the advancement of surgery, and his successful exertions in improving the scientific knowledge and treatment of disease. His singular happiness in developing and teaching others, the original and philosophic views which he naturally takes of all the subjects that come under his examination, and the success with which he communicates that enthusiasm in the cause of science and humanity which is so warmly felt by himself, the admirable skill with which he enlivens the dry details of elementary instruction, are most gratefully acknowledged by his numerous pupils. All these various excellences have been repeatedly felt in this theatre. Having had the good fortune to be initiated in the profession by Mr. Abenethy and to have lived for many years under his roof, I can assure you, with the greatest sincerity, that however highly the public may estimate the surgeon and the philosopher, I have reason to speak still more highly of the man and the friend; of the invariable kindness which directed my early studies and pursuits, of the disinterested friendship which has assisted every step of my progress in life, of the benevolent and honorable feelings, the independent spirit and the liberal conduct, which, while they dignify our profession, win our love and command our respect for genius and knowledge, converting these precious gifts into instruments of the most extensive public good."

I will next quote those passages in the lecture on life which I suppose Mr. Abernethy refers to when he speak of sceptics and sceptical opinions. In his subsequent course of lectures Mr. Lawrence gives an explanation which, if given at the time, might have saved him from some of those violent attacks to which he was afterwards subjected.

Page 174. "It seems to me that this hypothesis or fiction of a subtle invisible matter, animating the visible textures of animal bodies, and directing their motions, is only an example of that propensity in the human mind which has led men at all times to account for those phenomena of which the causes are not obvious, by the mysterious aid of higher and imaginary beings."

Page 178. "To say that we can never arrive at the first cause of the vital phenomena would be presumptuous; but it is most true that all the efforts to penetrate its nature have been equally unsuccessful, from the commencement of the world to the present time. Their complete failure in every instance has now led almost universally to their abandonment, and may induce us to acquiesce on this point in the observations of Lucretius on a parallel subject:

> "'Ignoratur enim quæ sit natura animai;
> Nata sit, an contra nascentibus insinuetur;
> Et simul intereat nobiscum, morte dirempta,
> An tenebras orci visit vastasque lacunas.'"

Lawrence in the passages I have just quoted powerfully expresses his ignorance of the nature of life, in opposition to the theories of Hunter and Abernethy, that it was an ethereal essence added to a living body, a sort of superintending spirit.

A very interesting writer, in a book lately published,* has confessed a similar ignorance of the nature of vital phenomena, but such confession of ignorance has not and will not expose him to the charge of infidelity. The whole work is highly interesting, consisting of illustrations of the power, wisdom, and goodness of God, as manifested in his works.

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* 'Benedicite,' by G. Chaplin Child, M.D.

One of the soundest physiologists of our time, and certainly the last man that could be accused of scepticism, has expressed in beautiful language the same views of life in some lectures delivered at the Royal Institution,* and thoroughly appreciated by the intelligent audience that throng its theatre.

Savory says, and I entirely agree with him, "that this dogma of a vital principle has not assisted us in our investigation of the phenomena of life, and that our knowledge of the vital processes has not been in the least measure advanced by any such assumption.

"'Vital principle,' 'organic agents,' and other like terms, when employed in physiology, are even at the best empirical ones and equivalent to nothing more than the final letters of the alphabet in an algebraical formula, for they are, when used in their least objectionable sense, mere expressions of something unknown. But the assumption of such an agent or principle (however designated), annihilating or suspending the operations of forces acting elsewhere, in its influence upon the progress of knowledge; by referring all vital actions to this obscure agency, while nothing was thereby explained, inquiry was to a great extent checked. The final purpose was discerned, an efficient cause was forthwith assumed. Physiology fell idly back upon a vital principle.

"Unfortunately, much prejudice has been mixed up with these doctrines. To explain any of the phenomena of life by the operation of the physical forces, has been stigmatised as irreverent, as an attempt to defame the highest and noblest of the Creator's works. But is not such a charge as this altogether false and scandalous?

"The result being given—Life—it surely more exalts our feeble and imperfect conception of infinite intelligence and power, to understand that the wonderful and mysterious phenomena of vitality have been evolved from the materials and forces around us, rather than by the introduction of distinct and peculiar agents."

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* 'On Life and Death,' by Wm. S. Savory, p. 143.

Lawrence's reply to Abernethy is so powerful and just in the general principles on which it is founded, that you must forgive my quoting some of it.

They are to be found in the first of his ' Lectures on Man,' "introductory to the course delivered in 1817," and show, therefore, that Abernethy's attack was made upon the two lectures which herein I have referred to, and not to his ' Lectures on Man.'

"That life, then, or the assemblage of all the functions, is immediately dependent on organization, appears to me, physiologically speaking, as clear as that the presence of the sun above the horizon causes the light of day; and to suppose that we could have light without that luminary, would not be more unreasonable than to conceive that life is independent of the animal body in which the vital phenomena is observed."

"I say physiologically speaking, and beg you to attend particularly to this qualification; because the theological doctrine of the soul, and its separate existence, has nothing to do with this physiological question, but rests on a species of proof altogether different. These sublime dogmas could never have been brought to light by the labours of the anatomist and physiologist."

In consequence of further attacks Wm. Lawrence was ultimately induced to withdraw his lectures on man from publication, and in this step he decidedly made, as I believe, a great mistake, but even this proceeding has been misrepresented. Letters bearing on the withdrawal of the work, besides other important matter, will shortly be published, when I look forward to a more complete refutation of all the charges which have been made against him than I have either the time or power to express.

"I beg leave," says Lawrence, in one of his letters to the Governors of Bethlem, "to assure you that no man is more fully impressed than I am with the importance of religion and morality to the welfare of mankind; that no one is more sensible of the peculiar excellencies of that pure religion which is unfolded in the New Testament; and that no one more earnestly desires to see its true spirit universally diffused and acted on."

We must not omit attention to another most important epoch in Lawrence's life.

In 1826 he attended a meeting held at the Freemasons' Tavern. On taking the chair he said, "We meet, gentlemen, in pursuance of an advertisement addressed to the members of the College of Surgeons, and in order to devise the best means of remedying the abuses which exist in the management of that Institution."

He then entered on the consideration of that most important subject with great energy and earnestness. The proof that he was right in the view which he took of the necessity of reform is, that almost all the abuses which he denounced have been corrected from time to time. He has been blamed unjustly as I think for this conduct as a reformer; he expressed a noble and perfectly just opinion in 1826, though I cannot defend his want of self-denial in not acting up to it in the latter years of his life.

In the speeches which Lawrence made at the Freemasons' Tavern there are some passages which do him the highest credit. "You will," says this reformer, "agree with me that a surgeon ought to understand medicine thoroughly, and that in proportion as his knowledge of the whole science is more extensive and accurate, will he be better prepared for the particular duties of his own department. The denomination of pure surgeon which some value so highly has become rather a term of ridicule and contempt. It implies not a higher, but a lower degree of knowledge and utility. Pure! free from what? From all knowledge of medicine! If we wish to deserve and retain public respect, let us reject the imputation of such purity."

As a lecturer Lawrence has been rarely equalled, as every one must allow who ever heard him deliver the Hunterian oration. His person, gesture, countenance, and voice were dignified, impressive, and persuasive. No ungainly gesticulation, no overstepping the modesty of nature. A graceful ease, a simplicity of style and statement characterised his orations.

Lawrence has been accused of avarice: I have not been able to ascertain any facts in proof of it, but I have heard of many instances of real kindness and generosity.

I am informed by an old pupil of his that there are many now living who can bear testimony to his unobtrusive generosity.

He has been known to give a blank cheque to serve a friend, accompanied with the simple request that he would not overdraw his account.

His friendships once formed endured for life. He was rigidly truthful and upright. He was cold in his manner, but never oppressive, he never gave way to violent anger. He had great respect for talent, a still graver respect for industry. He has helped many students whose up-hill course would never have been accomplished unaided.

He discharged his public duties most faithfully, and was one of those who introduced the highest tone of treating hospital patients with gentleness, sympathy and kindness. In private practice no labour was too great, no hour too late nor too early for a visit. He usually operated at 8 a.m., summer and winter, " for then," said he, " I shall have time to correct secondary hæmorrhage before nightfall, should it occur."

" Lawrence held office," says his admiring pupil, " long, and it was not for the money. He loved his work as he did his life, and both ended together." From the same authority I have this account of his resignation.

He gave a large dinner party to some old friends, when he was observed to be rather more silent than usual. The following day his old pupil, Mr. Holmes Coote, who had been present and who had noticed his altered looks, called on him. Mr. Coote found him in his consulting room writing. He rose to shake hands, saying, " I am particularly glad to see you; I wished to tell you that I am suffering from certain symptoms which you know cannot go on without loss of life. I am writing my resignation to the Treasurer." He lived, notwithstanding these warnings, above two months from this time.

About twelve years before Lawrence's death, when he was living at Ealing, not feeling well he sent for his friend Mr. Cooper, of Brentford. Mr. Cooper, who has kindly given me the particulars, says, " Mr. Lawrence sent for me hastily one Sunday afternoon about three o'clock. I found him sitting in his dining room alone. He rose, but had to steady himself by holding on to the table. " I have pain here," he said, pointing to the right side of his head. " I am giddy, and had vertigo a day or two ago. I have a little numbness of my left hand. I have nausea, but I have not been sick, and I do not see very clearly." I proposed to take some blood, either by cupping, leeching, or directly from the circulation by opening a vein in the arm. Without a moment's hesitation he replied, "The latter if you please." When ten ounces had been quickly drawn, I was about to remove the bandage, he being then seventy years of age; but he said, "Not yet, let the blood flow, I am easier." I yielded to his wish until sixteen ounces had been abstracted. He then in the most cool and self-possessed manner remarked, "The pain here is quite gone, the blood was never out of its own vessels." On calling at Ealing Park the next day, I found that he was gone to town, leaving a message that he felt perfectly well, and so he continued."

This case in my humble opinion may be added to others I have related elsewhere to show the value of bloodletting in the old as well as in the young; I have no hesitation in saying that in all human probability, by the sound judgment of Mr. Cooper and the good sense of Mr. Lawrence, his life was prolonged about fourteen years.

During the many years that Lawrence held the office of Surgeon to Bethlem, I am sorry to say he did little to advance the pathology of insanity. He sent a series of post-mortem examinations to this Society, but as he omitted all special mention of the condition of the *hemispherical ganglion*, they were consequently of little value. I mention this now because I fear that this subject has not received the attention, even from younger men, which it deserves.

I must now close this imperfect sketch of one of those men who has done very much to exalt the science of our profession both here and abroad. May I confess the hope that those who are nobly striving to do all Lawrence has done for scientific surgery may avoid his failings and take lesson from his errors, that when they are in the Council of the College as reformers, they will continue the same till every recognised abuse is corrected.

The difficulty which I must confess I have deeply felt (in my attempt to speak justly and truthfully of Lawrence, avoiding, on the one hand, timidity in dealing with his errors, or too great enthusiasm in recording the service he rendered the profession of surgery) *vanishes* when I come to the name of *Michael Faraday.*

" When the last sunshine of expiring day
In summer's twilight weeps itself away,
Who hath not felt the softness of the hour
Sink on the heart, as dew along the flower
Even as the tenderness that hour instils,
When summer day declines along the hills.
So feels the fulness of our heart and eyes
When all of genius that can perish dies,
A mighty Spirit is eclipsed, a Power
Has passed from day to darkness."

Faraday was indeed a *Power*, a *mighty* power of intellect and goodness.

But *that* power has not passed from " *day to darkness.*" The power of Faraday lives still, and will live to the end of time.

It is only the poor shattered earthly frame that has left us, and this sank so calmly, so beautifully to rest that even those who loved him most could not grieve that his spirit was released from all pain and sorrow, weakness, and human imperfections. I made Faraday's acquaintance about the year 1825, when a few philosophers were beginning to recognise the brightness of the star which was only just appearing above the horizon.

Nothing could exceed the kindness of this great man to all who came under his influence. Most truly has Professor Tyndall said in his admirable memoir, " No memory could be more beneficial, he was equally rich in hand and heart."

The perusal of Tyndall's memoir renews a feeling that the greatest blessing conferred on Faraday in his latter days by a beneficent Creator was to send him for a friend and coadjutor one who, in his intellectual qualities and kindly disposition, must have been a man after his own heart.

Faraday was born at Newington (not far from the present hospital of St. Thomas's) on the 22nd of September, 1791; he died on the 25th of August, 1867, at Hampton Court. His father was a blacksmith, and though there is no account of his possessing any special mental ability, he had the good sense to send his son to a day school, where he learned reading, writing and arithmetic. His first entrance into the busy world of London was as a bookbinder's apprentice. Mr. Rebeau, of Blandford Street, was his master. This vocation enabled him to indulge his inclination for reading, and the knowledge which he thus acquired soon took a tangible form in the direction of that science which was ultimately the great goddess of his idolatry—*electricity*. This was proved by his building up a small electrical machine, having procured from a neighbouring chemist a round medicine bottle for a cylinder.

Eight years of Faraday's life were spent here, but with his apprenticeship his union with trade did not close, for he worked elsewhere as a journeyman.

The story of his emancipation is interesting. A friend took him to the Royal Institution to hear Sir Humphrey Davy, who was delivering his last course of lectures. Young Faraday took notes, and after writing them out fairly he sent a copy to Davy, with the earnest request that he would make him a doorkeeper in the temple of science.

Davy extended his hand to him, and dragged him out of the slough of trade and its petty bargainings.

Davy, before he engaged Faraday, said to the late Mr. Pepys, "What am I to do, here is a letter from a young man named Faraday; he has been attending my lectures, and wants me to give him employment at the Royal Institution; *what can I do?*" "*Do*," replied Pepys, "put him to wash bottles; if he is good for anything he will do it directly; if he refuses it he is good for nothing." "No, no," replied Davy, "we must try him with something better than that." The result was that Davy engaged him to assist in the laboratory at "weekly wages."

His next advance there was to the post of director of the laboratory which Davy had held, as well as the professorship of chemistry which he gave up to Brande.

Faraday's first notions of philosophy were derived during his apprenticeship from the Encyclopædia Britannica, and his first draughts at the fountain of chemistry were from Mrs. Marcet's "Conversations on Chemistry," "which," says Faraday (in a letter which he wrote on the occasion of Mrs. Marcet's death), "gave me my foundation in that science. Do not suppose that I was a very deep character, or marked as a precocious person. I was a very lively, imaginative person, and could believe in the

'Arabian Nights' as easily as in the 'Encyclopædia.' But facts were important to me, and saved me. I could trust a fact and always cross-examined an assertion. So when I questioned Mrs. Marcet's book by such little experiments as I could find means to perform, and found it true to the facts as I could understand them, I felt that I had got hold of an anchor in chemical knowledge, and clung fast to it. Thence my deep veneration for Mrs. Marcet—first as one who had conferred great personal good and pleasure on me, and then as one able to convey the truth and principle of those boundless fields of knowledge which concern natural things, to the young, untaught, and inquiring mind."

When Faraday was admitted as an assistant in the laboratory of the Royal Institution by Humphrey Davy, he told him that he would find "science a harsh mistress, and in a pecuniary point of view but poorly rewarding those who devoted themselves to her service."

"He smiled," says Faraday, "at my notions of the superior moral feelings of philosophical men, and said that he would leave me to the experience of a few years to set me right in that matter."

He sent to a scientific journal the result of his studies only two years after his entering into the service of the institution.

His discoveries, however, may be said to date about five years after that, *i.e.* in 1820. He began lecturing about 1825, when he was associated with Brande in delivering the laboratory lectures at 9 a.m.

This course I attended in 1835, with an old pupil of mine of the name of Le Blanc, who was afterwards shot by a French sentinel in the Crimea by mistake.

The Friday evenings at the Royal Institution which are now so celebrated were instituted by a band of radical reformers, as they were considered by many in those days among the managers of the institution.

The first of this course was given by Michael Faraday on the 3rd February, 1826, that is, thirteen years from the date of his admission as an assistant. It is so stated in the Journal of the Proceedings of the Royal Institution, vol. i, p. 120.

"The members held these first weekly meetings at half-past eight."

The subject of Faraday's lecture was "Caoutchouc or Elastic Gum." The specimens of its application were provided by T. Hancock.

My uncle Samuel Solly, who was at that time a leading geologist and a manager of the institution, was mainly instrumental in causing Faraday to take this important step in his upward progress. Though of course nothing could have permanently hindered his brilliant career, still I confess that I feel proud that a near relative should have been one of the first who recognised his great mental power, and did what he could to bring forward the then unknown genius.

Mr. Brande opposed it vehemently, urging that his right place was as a lecturer in the laboratory, and that while he (Mr. Brande) was the professor of chemistry he could not admit without a dereliction of duty another professor on his ground. The reformers in the council of the institution, however, gained the day, and the lecture was delivered to the great astonishment of his audience and anxious friends. It was a complete success, and a complete refutation of the forebodings of those who prophesied it would be a failure. It was feared even by those most attached to him that his want of early education would display itself. I remember the lecture well, it was simple, natural, clear, and most interesting, leaving nothing to be desired by his dearest friends. He was eloquent without effort, with all the ease of a polished gentleman; natural and simple as a child, he astonished everybody, and it is not too much to assert that he was then, and remained to the last, one of the most interesting and instructive lecturers that ever rivetted the attention of a London audience.

Faraday lectured again on the next Friday, the 10th of the same month. His subject was, "The result obtained by Mr. Brunel during three years of exertion in endeavouring to apply the liquids resulting from the condensation of gases as mechanical agents."

On the 24th he took up "Lithography," from information afforded him by Mr. Hullmandel, of Marlborough Street.

Thus did this marvellous man continue to take up one subject after another, as they appeared to be likely to promote the object of those who had designed these meetings.

Faraday's kindness to young men was remarkable, and even at the risk of being charged with egotism, I must mention one instance personal to myself. By his invitation I gave on Friday, the 26th February, 1828, *i. e.* forty years ago, a lecture on the "Anatomy of Birds;" this occurred after I had begun to teach anatomy in the theatre at St. Thomas's Hospital, but before I had finished my apprenticeship or obtained my diploma. I had therefore obtained no reputation as a lecturer, and to his kind partiality I alone owed this step.

Since then I have had the pleasure of delivering others on different subjects on the Friday evenings.

By birth and education Faraday was a member of the sect or church known as Sandemanians or Glassites. In this church he ministered both on Sunday morning and on Wednesday evening in a chapel in Goswell Street.

When I was acting as Surgeon to the Aldersgate Dispensary, I was asked by Faraday to attend to some of the members of this congregation. I remember one case in particular, the subject was an old lady, and I used frequently to see Faraday and his wife at her room.

The case was an extremely interesting one, but of great suffering and distress, and I have now in my possession a drawing of the disease.

Faraday declined, with one single exception, all dinner engagements; he told me Sir Humphrey Davy's love of society and intercourse with fashionable people had been a warning to him.

The exception was Professor Brande, and at his house I have met him at dinner. After dinner his great delight was to amuse the children with illustrations of electrical action.

I think it was on one of these occasions that I was shown a book which Faraday recognised as having been bound by him as an apprentice.

"Supreme satisfaction in established truths," says the Rev. Samuel Martin, "was a charming feature of Michael Faraday from his youth to his old age." In his lecture on "Mental Education" (in which he shows much of his inner life) there is many a passage which far more than justifies this remark. I have only room for one quotation.

"I will simply express my strong belief that that point of self-education which consists in teaching the mind to resist its desires and inclinations, until they are proved to be right, is the most important of all, not only in things of natural philosophy, but in every department of daily life."

Time will not permit me to enumerate a tithe of Faraday's contributions to science. To understand them I must refer you to Tyndall's luminous exposition of them, and content myself with this quotation:—"Seven and thirty years have passed since the discovery of magneto-electricity, but if we except the *extra* current, until quite recently, nothing of moment was added to the subject."

"Faraday entertained the opinion that the discoverer of a great law or principle had a right to the 'spoils,' this was his term, arising from its illustration; and guided by the principle he had discovered, his wonderful mind, aided by his wonderful ten fingers, overran in a single autumn this vast domain, and hardly left behind him the shred of a fact to be gathered by his successors."

"And here the question may arise in some minds, What is the use of it all? The answer is, that if man's intellectual nature thirst for knowledge, the knowledge is useful because it satisfies this thirst. If you demand practical ends, you must, I think, expand your definition of the term practically, and make it include all that elevates and enlightens the intellect, as well as all that ministers to the bodily health and comfort of men. Still, if needed, an answer of another kind might be given to the question. What is its use? As far as electricity has been applied for medical purposes, it has been almost exclusively Faraday's electricity. You have noticed those lines of wire which cross the streets of London. It is Faraday's currents that speed from place to place through those wires. Approaching the point of Dungeness, the mariner sees an unusually brilliant light, and from the noble phares of La Héue, the same light flashes across the sea; these are Faraday's sparks, exalted by suitable machinery to sunlike splendour. At the present moment tho Board of Trade, and the Brethren of the Trinity House, as well as the Commissioners of Northern Lights, are contemplating the introduction of the magneto-electric light at numerous points upon our coasts; and future generations will bo able to refer to those guiding stars in answer to the question, What has been the practical use of the labours of Faraday?"

"Faraday's religion was shown in his daily life; you could not be intimate with him without feeling that he was a true Christian. He thus expressed his views of revelation: 'High as man is placed above the creatures around him, there is a higher and far more exalted position within his view, and the ways are infinite in which he occupies his thoughts about the fears, or hopes, or expectations of a future life. I believe that the truth of that future cannot be brought to his knowledge by any exertion of his mental powers, however exalted they may be; that it is made known to him by other teaching than his own, and is received through simple belief of the testimony given.'"

"Let no one suppose for a moment that the self-education I am about to commend has respect to the things of this life, extended to any considerations of the hope set before us, as if man by reasoning could find out God. It would be improper here to enter upon this subject further than to claim an absolute distinction between religious and ordinary belief. I shall be reproached with the weakness of refusing to apply those mental operations which I think good in respect of high things to the very highest.

"I am content to bear the reproach yet even in earthly matters. I believe that the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made; even His Eternal Power and Godhead; and I have never seen anything incompatible between those things of man which can be known by the spirit of man which is within him, and those higher things concerning his future which he cannot know by that Spirit."

Tyndall, who had the privilege of seeing him almost to his last hours, says, "Sometimes during the last years of his life, by the permission of Mrs. Faraday, I went up to his room to see him. The deep radiance which in his time of strength flashed with such extraordinary power from his countenance, had subsided to a calm and kindly light by which my latest memory of him is warmed and illumined."

"Nature, not education, rendered Faraday strong and refined. A favorite experiment was representative of himself. He loved to show that water in crystallizing excluded all foreign ingredients, however intimately they might be mixed with it. Out of acids, alkalies, or saline solutions, the crystal came sweet and pure.

"By some such natural process in the formation of this man, beauty and nobleness coalesced to the exclusion of everything vulgar and low. Not half this greatness was incorporate in his science, for science could not reveal the bravery and delicacy of his heart."

By a curious coincidence, the next character that I, as your representative, have to do honour to, is *Velpeau.* He was, like Faraday, the son of a blacksmith, he began the world with nothing; like Faraday he was especially kind to all the younger aspirants to fame who came into his sphere of action, and, like our own great philosopher, gained the esteem, regard, and honour of the whole profession, of which he was one of the brightest ornaments.

They departed within a few days of each other. Velpeau, when he died, had attained the age of 72. It is stated in the 'Lancet' that "only a week before his death he was so straight and steady, so full of life and vigour, notwithstanding the injuries of time, it would have seemed that he was ever to remain thus. An illness of only three days has been enough to destroy the wiry frame and to bring down to the ground the powerful mind in all its wisdom and glory."

Velpeau's genius was of a peculiar stamp; it evinced the most social qualities of the human mind. Endowed with a powerful and active intellect, he was remarkable for soundness of judgment, penetrating sagacity, and nice discrimination. His knowledge was vast and varied; whatever he knew he knew well; he had a ruling passion for truth and justice.

Velpeau's name will remain a guiding star to the profession as long as scientific surgery lasts and medicine is its handmaid.

Pierre Victor Bazire, who died on the 11th of August, 1867, was, indeed, a loss to the profession in general, and to this Society in particular. It is to such accomplished physicians that we must look for support.

I was not so fortunate as to be able to reckon him among my personal friends.

One who knew him well says, "As a student he attained high distinction, and gave early earnest of great intellectual powers. The list of class victories achieved and prizes won would suffice for an epic. As a graduate he confirmed the promise of his student days. Quick of perception, apt in comprehension, retentive of memory, clear and precise in expression and judgment, with all his powers trained and matured under the best teachers, he exhibited a rare faculty of dealing with the phenomena of disease.

"His skill in diagnosis was altogether a peculiar gift, and was the occasion, at the first clinical examination for the doctor of medicine's degree in the University of London, of his being recommended for a special gold medal.

"In person, Dr. Bazire was most prepossessing, in manners singularly fascinating. He was, indeed, the polished gentleman and the accomplished physician. What more can be said? The loss to his friends, to his colleagues, and to the profession at large cannot be measured by stringing epithets together. They may serve as an outlet for grief, and this, alas! is all that now remains."

Sir David Brewster, in the 87th year of his age, was taken from us on the 10th of last month.

Though he died as Principal of the University of Edinburgh, his rank was far higher than any derived from University honours.

He was, since Faraday's death, undoubtedly the greatest philosopher of his age.

As a young man he was considered delicate and advised to take care of his health—a circumstance which I can confirm (from practical experience as an examiner of the probable duration of life for the life assurance companies) frequently leads to great longevity.

Sir David Brewster is best known to our profession from his deep researches into optical phenomena, and the practical improvements he made in optical instruments.

Originally intended for the Scotch Church, he turned aside from it into the still more laborious paths of natural philosophy. He was, however, so fortunate as to marry in his twenty-ninth year an heiress (the daughter of James McPherson, well known as the author of Ossian) which enabled him to indulge in the expensive luxury of science, without being pinched by the *res angusta domi.*

There can be no doubt that this circumstance helped to his longevity.

As members of the medical profession I am sure you are well aware and (most, I hope, through personal experience), that there is no tonic, not even quinine, iron, or silver, equal to gold.

Next upon my list comes the name of *John Propert*, a man worthy of all honour from the profession as the founder of the Medical Benevolent College. He was gathered to his fathers at the ripe old age of 74, on the 9th of September, 1867.

He was a Bartholomew's man, and entered there as a student in October, 1811. Six months' study enabled him in those days to pass the examination required for a naval surgeon. He soon afterwards left the service, and guided by the good sense and conscientious feeling of duty which regulated his conduct through life, he resumed his studies which he had abandoned too abruptly, and obtained his diploma in 1814. His success in practice was soon all that he could desire. In 1846 he first commenced the labours which eventuated in the complete establishment of the Medical Benevolent College.

That College must always remain a grand monument to his memory.

Thomas Pridgin Teale, Fellow of the Royal Society, was one of our non-resident Fellows. The town of Leeds (for years past celebrated by the high character of its surgeons) was the birthplace of this accomplished man. He died on the last day of the old year at the comparatively early age of 67.

As a Borough man, educated at St. Thomas's and Guy's, we feel proud of him.

He was, with the renowned Hey, one of the founders of the Leeds School of Medicine and Surgery, and gave clinical instruction at the Leeds Infirmary. He was surgeon to that institution for thirty years.

In 1856, by the advice of Sir B. Brodie and the other distinguished medical men who were consulted by the Crown, he was called to a seat in the Medical Council, where his temperate, quiet manner and striking good sense heightened the esteem of his professional brethren.

Teale was a truly conscientious, religious man, without bigotry or pretence.

I had the pleasure of knowing him personally, and it was always pleasant to meet him either in consultation or at those agreeable *réunions* which the institution of our Fellows' dinner on the first Thursday in July afford to the London men.

His contributions to surgery were of the greatest value, and we can boast that our Transactions have been enriched by three papers—1. 'On Hypertrophy of the Tongue.' 2. 'Restoration of the Lower Lip.' 3. 'Removal of Loose Cartilage from the Knee-Joint.'

I am afraid that he adds to the list of those whose lives have been shortened by a too anxious attention to his professional work.

Another of our non-resident Fellows was *Henry Hunter Raymond*, M.R.C.S. and L.S.A., of Cirencester, Gloucestershire, who died at Ashford on July 2nd, aged 35.

He was educated at St. Bartholomew's, and was formerly Resident Surgeon of the Children's Hospital.

He was of a delicate constitution, and suffered much in the first winter of the Crimean campaign. He was much esteemed and regarded by all who knew him.

Edward Howell, M.D. Edinb., also non-resident, was Senior Consulting Physician to the Swansea Infirmary. Died January 3rd, aged 74, South Hill Place, Swansea.

On the 10th of September, 1867, France and the world lost another great man—*Pierre Rayer*.

He, like Velpeau, owed his success to untiring industry.

He was a grand specimen of the nobility of human nature.

He was kind, true, and talented. "Ripe in years, having reached the age of 74, but engaged to the last in scientific labours, in the active profession among the highest ranks of society, and in the superintendence of a medical association which embraces the whole country, and was founded by him for the relief of our necessitous brethren."

M. Rayer was conspicuous for his anxiety to help young workers in pathological inquiries, and hosts of those who have since become eminent men, for instance, Bernard and Robin, are indebted to him for early assistance.

The labours of M. Rayer were gigantic, and, up to a great age, he was equal to them, though borne down by the loss of his wife and a beloved daughter. It was, however, perceived a few years ago that his health was giving way; a temporary lull took place, but apoplexy at last terminated the life and great deeds of one of the ornaments of the French profession.

Dr. Daubeny, of Magdalen College, Oxford, was also one of our honorary fellows.

He died at the age of 72, on the 12th of December, 1867.

He never practised as a physician, but he did important service to the scientific study of medicine and the promotion of general science by all the progressive measures which have been lately carried out in his classical Alma Mater.

He was Professor of Botany for thirty-four years, and did his work with zeal, care, and attention.

He was much esteemed by all who knew him.

The last name upon my list shall be one who might have been called, without giving offence, the Nestor of our profession; he died at the age of 90. I mean *Dr. James Jackson*, Emeritus Professor of Medicine in the Harvard University.

I am sure you will forgive my referring to the fact, that he adds another to the goodly list of celebrated men educated at St. Thomas's Hospital. He was a pupil of Sir Astley Cooper, and also of Fordyce. He was a man of the highest character as a citizen, and his professional talents were worthy of his Alma Mater.